State Of California **The Resources Agency of California**

Memorandum

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To : Commissioner Robert A. Laurie
Commissioner David A. Rohy

From : **California Energy Commission** - Marc Pryor
Project Manager
1516 Ninth Street
Sacramento, CA 95814-5512

Subject : **Revised Testimony to the La Paloma Generating Project (98-AFC-2) Final Staff Assessment**

On April 7, 1999, the California Energy Commission (Energy Commission) staff filed its Final Staff Assessment (FSA) for the La Paloma Generating Project, a 1,048 megawatt natural gas-fired power plant to be located in western Kern County, California. As noted in the FSA, the air quality, biological resources, water resources, paleontological resources and cultural resources technical areas were incomplete due to a lack of timely information.

Attached is the revised testimony for the cultural resources technical area.

SUMMARY OF THE REVISED DOCUMENTS

CULTURAL RESOURCES

On March 31, 1999, the applicant submitted a supplement that contained the results of the cultural resources survey conducted for three changes in the project. These changes are: 1) the addition of an alternative electrical transmission line Route 1B that deviates around a parcel of land owned by the California Department of Fish and Game; 2) a short route adjustment to the water supply pipeline; and 3) the addition of a 700,000 gallon water storage tank ("reservoir"). Staff has completed its revised analysis of the cultural survey and has revised its testimony to address the results.

In addition, recent changes to the California Environmental Quality Act (CEQA) prompted staff to further revise its testimony.

Attachment

cc: Proof of Service

CULTURAL RESOURCES

Revised Testimony of Kathryn M. Matthews

INTRODUCTION

This analysis discusses cultural resources which are defined to include the structural and cultural evidence of the history of human development and life on earth. Evidence of California's early occupation is becoming increasingly vulnerable due to the ongoing development and urbanization of the state.

Cultural resources are significant to our understanding of our culture, our history and heritage. Critical to the analysis of cultural resources are the spatial relationships between an undisturbed cultural resource site and the surface environmental resources and features, and the analysis of the locational context of the resource materials within the site and beneath the surface. These relationships provide information that can be used to piece together the sequence of human occupation and use of an area, and they begin to create a picture of the former inhabitants and their environment.

The determination of potential impacts to cultural resources from the proposed La Paloma Generating Project (LPGP) is required by the Siting Regulations of the California Energy Commission (Energy Commission) and by the California Environmental Quality Act (CEQA). Impacts to cultural resources may result either directly or indirectly during pre-construction or construction of the project.

Three aspects of cultural resources are addressed in this analysis: prehistoric and historic archaeologic resources, and ethnographic resources.

PREHISTORIC RESOURCES

Prehistoric archaeologic resources are those materials relating to prehistoric human occupation and use of an area; these resources may include sites and deposits, structures, artifacts, rock art, trails and other traces of prehistoric human behavior. In California the prehistoric period began over 10,000 years ago and extended through the 18th century when the first Euro-American explorers settled in California.

HISTORIC RESOURCES

Historic archaeologic resources are those materials usually associated with Euro-American exploration and settlement of an area and the beginning of a written historical record; they may include archaeological deposits, sites, structures, travelled ways, artifacts, documents, or other evidence of human activity. Under state requirements, cultural resources must be greater than 100 years old to be considered historic resources, while under federal requirements, such materials are considered if they are greater than 50 years old.

ETHNOGRAPHIC RESOURCES

Ethnographic resources are those materials important to the heritage of a particular ethnic or cultural group, such as Native Americans, African, European, or Asian immigrants. They may include traditional resource collecting areas, ceremonial sites, topographic features, cemeteries, shrines, or ethnic neighborhoods and structures.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)

Cultural resources are indirectly protected under provisions of the federal Antiquities Act of 1906 (Title 16, United States Code, § 431-433) and subsequent related legislation, policies and enacting responsibilities, e.g. federal agency regulations and guidelines for implementation of the Antiquities Act. The following laws, ordinances, regulations, standards and policies apply to the protection of cultural resources in California. Projects licensed by the Energy Commission are reviewed for compliance with these laws.

FEDERAL

Portions of the routes proposed for the raw water supply pipeline and the electric transmission lines cross lands managed by the US Bureau of Land Management (BLM). Therefore the project becomes "undertaking" according to federal definition and the BLM will be involved as the lead federal agency for cultural and paleontologic resources. If cultural resource sites are identified on non-federal lands and they meet federal criteria for eligibility for listing in the National Register of Historic Places, then federal laws also would apply to these resources.

- National Environmental Policy Act (NEPA): Title 42, United States Code, sections 4321-4327, requires federal agencies to consider potential environmental impacts of projects with federal involvement and to consider appropriate mitigation measures.

- Federal Land Policy and Management Act (FLPMA): Title 43, United States Code, Chapter 35, Sub-Chapter VI, Sections 1781-1782; requires the Secretary of Interior to retain and maintain public lands in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric water resource, and archeological values [Section 1781(a)(8)]; the Secretary, with respect to the public lands, shall promulgate rules and regulations to carry out the purposes of this Act and of other laws applicable to public lands [Section 1740].

- Federal Guidelines for Historic Preservation Projects: The US Secretary of the Interior has published a set of Standards and Guidelines for Archaeology and Historic Preservation. These are considered to be the appropriate professional methods and techniques for the preservation of archaeological and historic properties. The Secretary's standards and guidelines are used by federal agencies, such as the Forest Service, the Bureau of Land Management, and the National Park Service.

- Section 106 of the federal guidelines sets forth procedures to be followed for determining eligibility for nomination, the nomination, and the listing of cultural resources in the National Register of Historic Places (NHRP). The eligibility criteria and the process are used by federal, state and local agencies in evaluating the significance of cultural resources. Very similar criteria and procedures are used by the state in identifying cultural resources eligible for listing in the State Register of Historic Resources.

- Executive Order 11593, "Protection of the Cultural Environment," May 13, 1971, (36 Federal Register, 8921) orders the protection and enhancement of the cultural environment through providing leadership, establishing state offices of historic preservation, and developing criteria for assessing resource values.

- American Indian Religious Freedom Act; Title 42, United States Code, Section 1996 protects Native American religious practices, ethnic heritage sites, and land uses.

- Native American Graves Protection and Repatriation Act (1990); Title 25, United States Code Section 3001, *et seq.* defines "cultural items", "sacred objects", and "objects of cultural patrimony"; establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for return of specified cultural items.

STATE

The following discussion of California law related to the California Environmental Quality Act (CEQA) was revised in late 1998 and most of the changes have been incorporated into this revised list.

- Public Resources Code, Section 5020.1 defines several terms, including the following:

  (j) "Historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

  (q) "Substantial adverse change" means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.

- Public Resources Code, Section 5024.1 establishes a California Register of Historic Places; sets forth criteria to determine significance; defines eligible properties; and lists nomination procedures.

- Public Resources Code, Section 5097.5 states that any unauthorized removal or destruction of archaeologic or paleontologic resources on sites located on public land is a misdemeanor. As used in this section, "public lands" means lands owned

by, or under the jurisdiction of, the state, or any city, county, district, authority or public corporation, or any agency thereof.

- Public Resources Code, Section 5097.98 defines procedures for notification of discovery of Native American artifacts or remains and for the disposition of such materials.

- Public Resources Code, section 5097.99 prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions.

- Public Resources Code, section 5097.991 states that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated.

- Public Resources Code, section 21000, et seq, California Environmental Quality Act (CEQA). This act requires the analysis of potential environmental impacts of proposed projects and requires application of feasible mitigation measures.

- Public Resources Code, section 21083.2 states that the lead agency determines whether a project may have a significant effect on "unique" archaeological resources; if so, an EIR shall address these resources. If a potential for damage to unique archaeological resources can be demonstrated, such resources must be avoided; if they can't be avoided, mitigation measures shall be required. The law also discusses excavation as mitigation; discusses the costs of mitigation for several types of projects; sets time frames for excavation; defines "unique and non-unique archaeological resources"; provides for mitigation of unexpected resources; and sets financial limitations for this section.

- Public Resources Code, section 21084.1 indicates that a project may have a significant effect on the environment if it causes a substantial adverse change in the significance of a historic resource; the section further defines a "historic resource" and describes what constitutes a "significant" historic resource.

- CEQA Guidelines, California Code of Regulations, section 15126.4 "Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects", sub-section (b) "Mitigation Measures Related to Impacts on Historical Resources". Subsection (1) discusses impacts of maintenance, repair, stabilization, restoration, conservation, or reconstruction of a historical resource. Subsection (2) discusses documentation as a mitigation measure. Subsection (3) discusses mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation in place is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

- CEQA Guidelines, California Code of Regulations, section 15064.5 "Determining the Significance of Impacts to Archaeological and Historical Resources". Subsection (a) defines the term "historical resources". Subsection (b) explains when a project may be deemed to have a significant effect on historic resources and defines terms used

in describing those situations. Subsection (c) describes CEQA's applicability to archaeological sites and provides a bridge between the application of the terms "historic resources" and a "unique archaeological resources".

- California Environmental Quality Act (CEQA) Guidelines: California Code of Regulations, section 15064.7 "Thresholds of Significance". This section encourages agencies to develop thresholds of significance to be used in determining potential impacts and defines the term "cumulatively significant".

- California Environmental Quality Act (CEQA) Guidelines, Appendix G: "ISSUE V: CULTURAL RESOURCES". Lists four questions to be answered in determining the potential for a project to impact archaeological, historic, and paleontologic resources.

- California Penal Code, section 622.5 -- Anyone who damages an object or thing of archaeological or historic interest can be found guilty of a misdemeanor.

- California Health and Safety Code, section 7050.5. If human remains are discovered during construction, the project owner is required to contact the county coroner.

- Public Resources Code, section 5097.98. If the county coroner determines that the remains are Native American, the coroner is required to contact the Native American Heritage Commission, which is then required to determine the "Most Likely Descendant" to inspect the burial and to make recommendations for treatment or disposal.

LOCAL

Although the Energy Commission has pre-emptive authority over local laws, it typically ensures compliance with local laws, ordinances, regulations, standards, plans, and policies. The project site and associated linear facilities are all located within unincorporated portions of western Kern County.

KERN COUNTY

According to the Application for Certification (AFC), there are no applicable local LORS (LPGP 1998a). Kern County staff indicated that they do not have a specific county policy that addresses cultural resources but they do ensure compliance with CEQA (Forrest 1999).

ENVIRONMENTAL SETTING

REGIONAL DESCRIPTION

The project area is located in the Great Valley Physiographic Province of California, which is bounded on the south by the Transverse Range; on the east by the Sierra Nevada Range; on the north by the deltas of the San Joaquin and Sacramento rivers; and on the west by the Temblor Range (an interior portion of the Coast

Ranges). The Kern River flows west and southward from the western Sierra foothills, across the valley floor and into Lake Buena Vista.

The southern part of the Great Valley Province is called the San Joaquin Valley. At one time, this entire valley area was covered by an ancient salt-water and then, gradually, a fresh-water sea. As late as the 1840s, prior to the control of water resources for irrigation, the southern-most portion of the San Joaquin Valley was seasonally flooded by Lake Buena Vista. At its highest watermark, the lake covered an area of 760 square miles. The shorelines of ancient Lake Buena Vista are located within thirty miles of the current project area. The route proposed for the electric transmission line crosses a flood channel for the Kern River and local drainage canals. ~~The Kern River channel is crossed by the route proposed for the electrical transmission lines~~. Today the project region is generally arid and barren with no permanent streams. Refer to the **Project Description** section of this document for a map of the project development region.

The proposed La Paloma Generating Project (LPGP) is located in the McKittrick Valley that runs generally northwest to southeast between the low hills that border the southwestern margin of the central valley and the foothills on the eastern side of the Temblor Range. Geologic activity in the McKittrick area has caused tremendous folding and squeezing of the underlying rock and the area is known archaeologically for the chert outcroppings which were quarried by prehistoric people for materials to make stone tools. Other geologic conditions caused underlying petroleum deposits to work their way to the surface along fault lines, forming tar seeps that were also used by native peoples, as well as modern-day residents (LPGP 1998a).

PREHISTORIC SETTING

The archaeological literature indicates that early residents of California typically lived near water sources that could provide them with access to a wide variety of plant and animal resources. Evidence from archaeological sites found along the shorelines of ancient Lake Buena Vista and the nearby ancient Lake Tulare, both located several miles east and southeast of the project area, indicates that native peoples may have occupied the project area as early as 8,000 years ago. Surrounding these lakes were great marshy sloughs and wetlands, well populated by animals and waterfowl (LPGP 1998a).

There have been several different chronologies proposed for the project region. Evidence from archaeological sites excavated in the 1930's led archaeologists to tentatively conclude that there were type relationships between archaeological assemblages found in the project area and those found outside the region. Some of the points discovered at archaeological sites along the shorelines of ancient Lake Tulare suggest that these sites could possibly have been populated by hunters of big game as early as 11,000 years ago. Excavations in 1964 revealed artifacts in close proximity to fresh-water shell, but dates obtained from freshwater shell can be misleading and artifacts found in close proximity to this shell might not share the same dates (LPGP 1998a).

ETHNOGRAPHIC BACKGROUND

The prehistoric marshland environment was rich in fish, waterfowl and other animals. It was an abundant source of many necessities of life and it is likely that, with such resources, many tribes were able to maintain residences in the same place through most of the year. The project area is located within the ethnographic boundaries of the Southern Valley Yokuts (Wallace 1978). The town of Buttonwillow was originally a Yokuts meeting place and dance ground. Yokuts tribal groups living in the area included the Tulamni located near the southwestern perimeter of Lake Buena Vista and the Chuxoxi who inhabited the channels and sloughs of the Kern River delta area on the northeasterly edge of Lake Buena Vista. The lake and marshlands provided shelter to a great variety and abundance of wildlife and the rich food sources allowed the Yokuts peoples to live there most of the year (LPGP 1998a).

The literature indicates that the Chumash peoples traditionally occupied the Pacific coastal areas in the Santa Barbara County region, but their land use may have extended across the Temblor Range into the area traditionally occupied by the Yokuts (LPGP 1998a; Grant 1978). The Chumash presence in the central valley may only have been peripheral and it's unlikely they occupied areas as far north as the project area, but trade relationships between them and the Yokuts were possible. Thus, portions of the project area may have been influenced archaeologically by both the Chumash and the Yokuts peoples. Archaeological artifacts associated with the Chumash include beads, fine baskets, projectile points, sandstone, oak and steatite bowls. The Chumash are also well known for extraordinary rock art and numerous sites have been recorded within their traditional lands in the coastal range (LPGP 1998a).

EARLY SETTLEMENT AND DEVELOPMENT

In 1772 Pedro Fages, accompanied by European explorers, pursued deserters from the Spanish army through the San Joaquin Valley. No permanent settlements were established until the late 1830's, when Mexico began to grant ranchos to Mexican and foreign settlers. Two of these ranchos are the "Rancho El Tejon" and the "Rancho San Emigdio" that lie in the southern part of the San Joaquin Valley, to the south of the proposed project area. Today, Rancho El Tejon is one of the San Joaquin Valley's most important historic sites. The current headquarters of Rancho San Emigdio, now owned by the Wildlands Conservancy and managed as the Wind Wolves Preserves, are located between the pueblo and the old headquarters, near San Emigdio Creek, (LPGP 1998e; 1999b).

Within the last century there has been significant oil field development along the western edges of the southern San Joaquin Valley. Later in this century, the availability of water for irrigation has allowed for development of large tracts of land for major agricultural production. The northern portion of the project site has been considerably disturbed by on-going oil production (LPGP 1998a).

In Kern County, the railroad expanded to accommodate oil production. There was ongoing oil development in the McKittrick area prior to 1899. The McKittrick oil field was one of several oil fields that served to make Kern County into a major oil-

producing region. The Asphalto (McKittrick) Branch of the Southern Pacific Railroad remains in operation today and runs between Buttonwillow and Bakersfield. At several locations within the Area of Potential Effect (APE) and within one quarter-mile of the project APE are remnants of railroad berms. These were previously recorded and were re-located during pre-AFC surveys. While the berms and the railroad alignment are of potential historic interest, they have been considerably altered and no longer would meet the eligibility criteria for the National Register (LPGP 1998a).

PRE-AFC LITERATURE AND RECORDS SEARCH

Prior to preparation of the AFC, consultants to the applicant reviewed literature, site records and maps at the Southern San Joaquin Valley Information Center of the California Historical Resources Information System (CHRIS). The literature and record search focused on the APE for project construction and operation. For the La Paloma project, the APE was defined as the area within 100 feet around the power plant site and associated parking, storage or laydown areas, and within 100 feet from the centerline of the routes for all linear facilities and access routes. The record search also included adjacent areas located up to 0.25 miles away from the project site and linear routes. The searches indicated that thirteen (13) sites and ten (10) isolates had previously been recorded within the APE or within the 0.25 mile radius of the APE (LPGP 1998e).

Results of the literature review and a brief description of the known resources were summarized in the AFC. Site-specific information was filed with the Energy Commission under separate cover to maintain confidentiality of sensitive resource locations (LPGP 1998a; 1998e; 1999b). For additional information on the results of the literature review and a summary of recorded sites, refer to Table 5.7-1 on page 5.7-23 ~~the summary in the Section 5.7~~ of the AFC

FIELD SURVEYS

The record search indicated that only portions of the project site and linear facility routes had undergone previous surveys for archaeological resources and some of those surveys were completed more than five years ago. The applicant decided to conduct a cultural resource survey the entire project APE to determine the current status and condition of the previously recorded resources, and to identify any additional resources that might be present in areas not surveyed before (LPGP 1998a; 1998e).

A pre-AFC, “intense pedestrian survey” (BLM Class 3 survey), of the project APE was completed by archaeological resource specialists between April 20th and 24th, 1998. An additional five sites and two isolates were newly recorded during the field surveys and several previously recorded sites were found and re-recorded as part of the surveys for the current project (LPGP 1998a). In August 1998, after the AFC was filed, additional surveys were conducted in areas that were not accessible during April 1998 (LPGP 1998e).

On March 10, 1999, additional cultural resource surveys were conducted for a 1.3-mile long route deviation (Route 1B) for the electric transmission line that was re-

routed to go around lands owned by the state Department of Fish and Game rather than cross them, for a new water tank site, and for a adjustments to the water pipeline route near the tank. The literature and record search indicated that no additional resources have been previously recorded within one-quarter mile of the water tank site, the modified water pipeline route, and the modification to the electric transmission route. No new resources were encountered during the surveys of the water tank site and the water pipeline. One isolated find, an olivella shell bead, was discovered during the survey of the modified portion of the transmission Route 1B. (LPGP 1999a; LPGP 1999b).

POWER PLANT SITE

The 23-acre project site and the adjoining ten-acre and fifteen-acre laydown sites are located approximately 2 miles east-southeast of the town of McKittrick, California. The record search indicated that no previous surveys had been conducted on these sites. Surveys of the sites were conducted in April 1998 and surveyors walked in a series of transects spaced about 20 meters apart. Portions of the sites were covered by heavy vegetation that reduced visibility to about 25 percent. The proposed power plant site and laydown areas are described as previously disturbed by oilfield development and use. Numerous remnants of oil production equipment were found during surveys of the project site and some of it may be more than 45 years old. The remains of two oil pumping / drilling platforms were recorded but they appear to lack integrity and they did not appear to qualify for eligibility to the National Register (LPGP 1998e).

ELECTRIC TRANSMISSION LINES

The proposed 14.2-mile, electric transmission line route (Route 1) and one 1.7-mile alternative to a short segment of the route (Route 1A) were described in the AFC. Portions of the first four miles of Routes 1, 2, and 3 and the portion of Route 1 between post miles 4.0 and 5.5 cross lands that are under the jurisdiction of the US Bureau of Land Management (BLM). While the BLM serves as the federal permitting agency with respect to cultural and paleontologic resources, they have chosen to take the role of a responding agency for this project.

Surveys of all but the final four miles of the original alternative routes as they approach the Midway Substation, were conducted between April 20th and 24th, 1998. Surveyors did not receive access to the lands affected by the last four miles of Route 1 and alternate Route 1A until August of 1998 (LPGP 1998a; 1998e). The surveyors walked in parallel transects spaced about twenty meters apart. The width of the corridor surveyed varied, based on the location within the route and the potential for more than one linear facility to be built in parallel within the route. The terrain along the transmission routes ranges from relatively flat to moderate slope. Due to heavy vegetative cover over the portions of the proposed route, visibility of the ground surface ranged from 25 to 50 percent. The surveyors also examined soil exposures in road cuts or along dirt roads for signs of cultural resources (LPGP 1998a; 1998e).

The pre-AFC record search indicated that six cultural resource sites and ten isolates have been recorded within one-quarter mile of the proposed transmission route

(Route 1). Two of the sites are described as prehistoric lithic scatters and one also contained what appeared to be human bone fragments and artifacts of potential antiquity. Neither of these sites has been fully evaluated for significance. Three new sites and three isolates were found during project-related surveys. A previously recorded railroad berm was re-located and the record updated during the survey (LPGP 1999a; 1998e).

In early March 1999, alternative Route 1A was withdrawn from further consideration by the applicant and a second alternative to the proposed route (Route 1B) was proposed to avoid crossing a state-owned natural resource preserve. An intensive survey of the new alternative Route 1B was conducted in March 1999 and one modern trash dump was encountered. Surveyors walked transect intervals of 15 to 20 meters apart and covered a corridor of 100 feet on either side of the transmission center line, plus a 200-foot radius circle around the site of each transmission pole (LPGP 1999b).

WATER SUPPLY PIPELINES

Two alternative routes have been proposed for the power plant water supply pipeline. Route 2 extends for a distance of about 8.6 miles from a turnout at the State Water Project Aqueduct to the project site, while Route 3 extends for a distance of 8.4 miles between these facilities. Portions of the first four miles of Routes 2 and 3 and the portion of Route 3 between post miles 4.0 and 5.5 cross lands that are under the jurisdiction of the US Bureau of Land Management (BLM). While the BLM serves as the federal permitting agency with respect to cultural and paleontologic resources, they have chosen to take the role of a responsible agency for this project.

The initial four miles of routes 2 and 3 are the same and portions of this initial section would be built under an existing roadway. In the vicinity of the Elk Hills, the routes cross through areas of moderate terrain and then the land flattens out as it drops down toward the valley (LPGP 1998a).

Where these routes parallel portions of the electric transmission line route, the list of known sites and isolates on record is the same and the corridors were surveyed at the same time. The record search indicated that a number of isolates have been recorded in the vicinity of the old river channel but apparently there was no other evidence of sub-surface deposits. During the pre-AFC surveys, portions of the pipeline corridors were heavily vegetated so visibility ranged between thirty to fifty percent. In August 1998 additional surveys of lands not accessible earlier were conducted by the consultants to the applicant. No new cultural resources were found during the surveys (LPGP 1998a; 1998e).

In March 1999, Route 3 was dropped from further consideration by the applicant and a small modification was made to the final section of the Route 2, as it approaches the turn-out from the Aqueduct (LPGP 1998e). On March 10, 1999, additional surveys were conducted for the site of a 700,000-gallon water storage tank and for the new alignment for the pipeline route. No new resources were encountered during the surveys (LPGP 1999b).

A second, 1.5-mile long water pipeline is proposed to bring potable water to the project site from the town of McKittrick. The proposed route follows an existing paved road in an area that has been disturbed by oilfield development and road construction and maintenance. A railroad berm and a trash scatter possibly associated with the old railroad were previously recorded along this route. Due to loss of integrity and extensive surface disturbance, these resources have been determined not eligible for the National Register. No new cultural resource were found during pre-AFC surveys (LPGP 1998a; 1998e).

NATURAL GAS SUPPLY PIPELINES

The natural gas supply pipeline will run for a very short, 0.07 mile distance through an area that has been disturbed by oilfield development. No cultural resources have been recorded and none were observed during the pre-AFC surveys (LPGP 1998a; 1998e).

ARCHITECTURAL RECONNAISSANCE

Due to a long history of oil production that continues today, land in the project area is in a disturbed state. The two abandoned oil drilling/pumping platforms found on the project site could be older that 45 years, but the sites no longer have integrity due to considerable disturbance by oil field development. Surveys of the various corridors for the transmission lines and pipelines revealed an additional section of railroad berm and a trash heap, neither of which appeared to meet criteria for historic significance. No other structures older than 45 years are located within the project or linear facility APEs (LPGP 1998a; 1998e).

NATIVE AMERICAN CONTACTS

Prior to beginning the fieldwork and surveys, the consultant to the applicant contacted the state's Native American Heritage Commission (NAHC) to request information on sacred lands within the project area (LPGP 1998a). The NAHC maintains a list and maps of traditional sacred sites located on public and private lands throughout the state. The Heritage Commission also can refer staff, applicants, consultants and members of the public to registered Native American representatives for each part of the state who can assess the potential for a specific project to impact Native American sites or values.

In response to the project consultant's request, no sacred properties were identified within the project area (including a one-quarter mile radius study area), but this information often remains protected. In its response, the NAHC provided a list of Native American contacts. Confidential Appendix L contains a sample of the letter sent to the Native American representatives for the project area and a summary of the contacts undertaken. As of July 1998, there was only one phone call in response to the applicant's inquiry and the caller indicated she would follow up with a letter (LPGP 1998a).

SUMMARY OF KNOWN RESOURCES WITH THE AREA OF PROJECT EFFECT

The record search and field surveys of the project APE indicate the presence of only three previously recorded sites and two isolates within the project APE. Fourteen isolates and fifteen known resource sites were identified within one-quarter mile of the project and linear facility APE. Many of the known resource sites have been disturbed or damaged to the extent that they are not likely to be eligible for listing on the Register. The isolates, by definition, are typically not eligible for listing on the National Register of Historic Places. However, regardless of the potential for a known site or resource to be eligible for the Register, these resources should be avoided during project construction and operation.

At least two of the recorded sites appear to meet the criteria for eligibility for the Register and additional testing was recommended to assist in the determination of eligibility. These sites each have both prehistoric and historic components. Follow-up testing by mechanical excavation was recommended to help determine the presence of resources or deposits outside the boundary of these sites, but in the vicinity of proposed electric transmission facilities.

In March 1999, “presence/absence testing” was conducted at these two sites. These tests consist of gradually opening one or more trenches in areas near the recorded site or in areas where project-related facilities may be constructed. A backhoe carefully opened six to eight feet deep trenches, four inches at a time, to a depth well below the upper disturbance zone of eighteen to twenty-four inches.

The spoils removed from the trench were spread so they could be examined for traces of cultural materials, and the side walls of the trenches were examined for indications of culturally-related deposits or materials. The testing trenches were selected for their proximity to areas where electric transmission poles are proposed to be located. No evidence of cultural resources was observed in the trench walls or in the spoils. The completion of the trench testing indicated that construction of a pole or tower in that area is unlikely to disturb cultural resource, but it does not necessarily complete the eligibility determination (LPGP 1998e; 1999b).

Although the BLM has jurisdictional interest in cultural and paleontologic resources on lands crossed by portions of the routes for the water line and the electric transmission line, they have chosen to act as a reviewing and responsible agency for this project. They have determined that no further compliance work needs to be conducted for two known resource sites that are located on lands within their management jurisdiction. They have also offered comment on the applicants cultural and paleontologic resource technical reports and have suggested that certain known resources on lands outside their jurisdiction should receive further testing and/or treatment during project construction.

CATEGORIZATION OF IDENTIFIED RESOURCES

Various laws apply to the treatment of cultural resources. These laws require the Energy Commission to categorize resources by determining whether they meet several sets of specified criteria. These categories then in turn influence the

analysis of impacts to the resources and the mitigation that may be required to ameliorate any such impacts.

Under federal law, only historic or prehistoric sites, objects or features, or architectural resources that are assessed by a qualified researcher as “important” or “significant’ in accordance with federal guidelines typically need to be considered during the planning process. The significance of historic and prehistoric cultural resources is judged in accordance with the criteria for eligibility for nomination to the National Register of Historic Places as defined in 36 CFR 60.4. If such resources are determined to be significant, and therefore eligible for listing in the National Register (or the California Register), they are afforded certain protection under the National Historic Preservation Act and/or CEQA. The Advisory Council on Historic Preservation, for example, must be given an opportunity to comment on any federally-funded or permitted undertaking that could adversely affect such resources.

The National Register criteria state that “eligible historic properties” are: districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that (a) are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or (d) that represent a significant distinguishable entity whose components may lack individual distinction; or (e) that have yielded or may be likely to yield, information important to history or prehistory. Isolated finds, by definition do not meet these criteria. The state has a similar set of criteria.

Under federal law, resources determined not to be significant, that is, not eligible for National Register listing, are subject to recording and documentation only, and are afforded no further protection. However, occasionally certain resources, although they may not be assessed as “significant”, may nonetheless be of local or regional importance such that mitigation may be warranted regardless of their assessed significance. Staff evaluates the survey reports and site records for any known resources located within or adjacent to the project APE to determine whether they meet the eligibility criteria.

The record and literature search and the walking surveys of the proposed project APE were conducted to identify the presence of any cultural resource sites or materials. Where resources were identified, additional evaluation was conducted to determine whether the resources are already listed on, or are potentially eligible for listing on either the National Register of Historic Places (National Register) [36 CFR 800] or the California Register of Historic Resources. The determination of eligibility is made in compliance with the applicable provisions of the National Historic Preservation Act.

In addition, in the time that has elapsed since the first draft of this testimony was prepared, the state Resources Agency has adopted considerable revisions to the regulations implementing California Environmental Quality Act (CEQA). These

changes affected the language applicable to the analysis of cultural resources. Previously, the bulk of the information on how to assess resource and impact significance and on the types of mitigation measures available was contained in Appendix K of the CEQA Guidelines. Much of the language of that appendix has now been incorporated into Title 14, the Code of California Regulations, sections 15126.4 and 15064.5.

The CEQA guidelines now explicitly require the lead agency (in this case, the Energy Commission), to make a determination of whether a proposed project will affect "historic resources" and sets forth a listing of criteria for making this determination. As used in CEQA, the term "historic resources" includes any resource, regardless of age, as long as it meets these criteria. If the criteria are met, the Energy Commission must evaluate whether the project will cause a substantial adverse change in the significance of that historic resource, which the regulations define as a significant effect on the environment. The recent CEQA changes also indicate that the mitigation for impacts to historic resources that meet these criteria shall not be subject to the limitations provided in PRC section 21083.2.

Using the above criteria, staff has determined that the cultural resource sites described in the AFC and in subsequent filings for the LPGP meet one or more of the criteria for being an historical resource. Isolated finds, by definition do not meet these criteria.

Finally, CEQA contains a statute addressing "unique" archeological resources. It establishes limitations on analysis and prohibits imposition of mitigation measures for impacts to archeological resources that are not unique (Public Resources Code, section 21083.2). The statute also provides a definition of unique archeological resources. The CEQA Guidelines do, however, state that this prohibition does not apply when an archeological resource also meets the definition of a historical resource (California Code of Regulations, section 15064.5). Because staff have determined that the sites for which it is recommending mitigation do meet the definition of historical resources, the prohibition does not apply to the mitigation discussed in this Staff Assessment.

IMPACTS

Since project development and construction usually entail surface and sub-surface disturbance of the ground, the proposed LPGP project has the potential to adversely affect both known and previously unknown cultural resources. Project-related impacts to cultural resources may result either directly or indirectly during the pre-construction, construction and operation of the project. Direct impacts are those which may result from the immediate disturbance of resources, whether from vegetation removal, vehicle travel over the surface, earth-moving activities, or excavation. Indirect impacts are those which may result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource materials due to improved accessibility.

Often the potential for ~~a~~ project construction activities to impact previously unknown cultural resources cannot be fully evaluated until the sub-surface soils are exposed by excavation, trenching, and/or augering. A determination of the potential for discovery of cultural resources ~~is~~ can be made, based on the results of the literature review and the field surveys. ~~Given the number of sites located .~~ The ~~presence of~~ numerous known sites of historic interest near portions of the project site or the linear facility routes, the recorded occurrence of numerous isolates, and the evidence of human habitation over a period of thousands of years -- all in proximity to the proposed project APE – indicate that construction of the proposed project has the potential to encounter previously unknown cultural resources.

~~Often the potential for cultural materials to be found during project construction activities remains uncertain until the ground surface has been broken and excavation of sub-surface soils takes place and the evidence of human habitation in proximity to the proposed project APE indicates a potential for previously unknown historic and prehistoric resources to be encountered during project construction.~~ Thus, the potential for the LPGP ~~project~~ to impact previously unknown cultural resources is directly related to likelihood that such resources are present and whether they are actually encountered during project development and construction activities.

When a potential for discovery of cultural resources has been identified through literature search and intensive field surveys, there is a potential that project-related construction may impact cultural resources actually present. The potential for discovery of cultural resources does not measure the full significance of individual artifacts or other cultural resources discovered, present since it is impossible to accurately predict what individual artifacts or sites have not yet been discovered. ~~In most instances, researchers prefer to avoid disturbance of known cultural resource sites and artifacts.~~

THE POTENTIAL FOR ~~IMPACTS~~ "ADVERSE CHANGES" TO ~~CULTURAL~~ HISTORIC RESOURCES

Based upon NEPA~~, CEQA~~, the Warren-Alquist Act and the Energy Commission siting regulations, the Commission staff must evaluate the potential for significant impacts to cultural resources. Based upon CEQA, the Commission staff must evaluate the potential for adverse changes in the significance of historic resources. Not all cultural resources are the same, nor do they offer the same degree of information or insight into past human activities and adaptations to their environment. Professional experience, the literature, and the records of previously discovered cultural resources all provide a means of assessing the relative value of a newly discovered site or a recently unearthed resource. Significant cultural resources are those that meet established and generally accepted scientific criteria. The significance of any cultural resource sites or materials recovered during project construction is determined by a qualified cultural resource specialist and often can only be determined after they have been mapped and recorded, collected, prepared and analyzed by professional archaeologists and historians and cultural resource specialists. ~~that are generally accepted by professional archaeologists, historians, and cultural resource specialists.~~

The AFC and supplementary filings indicate that a total of 31 cultural resource sites and isolates have been recorded within one-quarter mile of the proposed power plant site area or within the corridors of project-related linear facilities. There is a potential for construction of the transmission lines and portions of the water pipeline to impact to known cultural sites unless final design avoids construction in the vicinity of these resources. Most of the known resources have been damaged or otherwise lack the integrity to meet the eligibility criteria for listing in the Register. Additional testing was conducted in the vicinity of these sites to evaluate the potential for impacts (LPGP 1998a; 1998e).

For this project, the majority of potential impacts to cultural resources would be associated with the construction phase of the project. Since project development and construction usually entail surface and sub-surface disturbance of the ground, the proposed LPGP has the potential to adversely affect known, as well as previously unknown cultural resources. However, the day to day operation of the LPGP power plant is not expected to have any significant impacts on the region's cultural resources. Staff has proposed mitigation that addresses the potential for impacts to both known, and unknown resources.

POWER PLANT SITE

As described in the AFC, the elevation of the proposed 23-acre plant site slopes gently from an elevation of 997 feet at the southwest corner to 956 feet above sea level (asl) at the northeast corner. In preparing for project construction, the site will be leveled using cuts and fills to an average elevation of 982 feet asl. An estimated fifteen feet of material will be cut from the high points and moved to fill the low spots. In all, the AFC estimates that 55,000 cubic yards of soil will be cut and 60,000 cubic yards of material will be filled. After the site is leveled, the power generation equipment will be supported by concrete mat foundations built at grade level (LPGP 1998a).

ELECTRIC TRANSMISSION LINE ROUTE(S)

The proposed route for the electric transmission line is about 14.2 miles long and about 12.1 miles would parallel existing transmission lines. The route crosses about 2.6 miles of land that has been modified by oilfield activity and about 3.5 miles of irrigated agricultural land. Most of the route is accessible from existing roads. Six known cultural resource sites and ten isolates have been found within one quarter mile of proposed Route 1. In some portions of the alternative transmission routes, unknown cultural resources could be present below the surface and could be unexpectedly impacted by construction (LPGP 1998a; 1998e).

The transmission lines will be strung on tubular steel poles and the spans between poles would average about 800 feet and could extend up to a maximum of 1,000 feet. Construction of foundations for the transmission structures will require drilling into the soil to variable depths for each power pole. The depth of soil disturbance will depend on the height and diameter of the individual transmission poles designed for each portion of the route. The width and extent of surface soil disturbance would depend upon the size of equipment needed to set and erect the

poles and the amount of construction work that can be accomplished from existing, disturbed areas or roads.

WATER SUPPLY

Of the two alternative raw water supply routes discussed in the AFC, one was withdrawn. The remaining pipeline route, Route 2, is 8.6 miles long and a 20 inch pipe would be buried in a trench three feet wide by seven feet deep. Trenching for the water pipeline would likely result in some disturbance to the previously recorded railroad berm (record updated for this project) and the newly recorded historic trash scatter associated with the railroad berm. The BLM, with the concurrence of the SHPO, has previously determined that the railroad berm and the trash scatter were not eligible for listing in the National Register because the sites lack integrity (LPGP 1998a; 1998e).

The 9,000-foot route for the 6-inch potable water pipeline (Route 4) is located in an area where the only recorded cultural resource is a historic-era trash scatter that has already been disturbed and determined not eligible for the National Register. The area along the pipeline route has been disturbed by road construction and oil field development and impacts to cultural resource are not expected to occur (LPGP 1998a).

NATURAL GAS SUPPLY PIPELINE ROUTES

The 20-inch gas pipeline will be buried with trench approximately two feet wide by six feet deep. However, the trench will be constructed in an area that has been previously disturbed by oil field development and no impacts to cultural resources are expected (LPGP 1998a; 1998e).

CUMULATIVE IMPACTS

Cumulative impacts to cultural resources may occur if increasing amounts of land are cleared and disturbed for the development of multiple projects in the same vicinity as the proposed project. ~~In most instances, researchers prefer to avoid unnecessary disturbance of known cultural resource sites and artifacts~~.

The total area affected by the proposed project appears small in comparison to the vastness of the southern San Joaquin Valley. However, the Energy Commission is currently reviewing, or anticipates receiving for review, at least five large power generation projects, all proposed for construction in this part of southwestern Kern County. Discussions are underway to consider joint use of rights-of-way or of linear facilities. The consolidation and/or the reduction in the number of rights-of-way and facilities would reduce the cumulative impact potential associated with the development of multiple projects in the same general area.

Proposed developments such as these large power generation projects and associated linear facilities, in conjunction with ongoing oil field and agricultural development, are already becoming concentrated in the western Kern County oil production area and extending farther out into the southern San Joaquin Valley. The combined effects of this development can accelerate the potential for continued disturbance of cultural resource sites and the loss of significant information. The

level of cumulative impact will grow as increasing development opens more undisturbed areas and eventually exposes highly sensitive cultural resource sites. There is increasing potential that important resources will be inadvertently lost or destroyed. Implementation of appropriate mitigation measures is essential to the protection of valuable cultural resources and for the recovery of information on earlier climate patterns and human adaptations to these environmental conditions.

IMPACTS OF FACILITY CLOSURE

PLANNED CLOSURE

The anticipated lifetime of the LPGP project is expected to be at least thirty-five years. It is anticipated that upgrades or modifications made prior to the facility's closure might extend the life of the plant. Closure would be caused by either (1) a natural or manmade disaster or economic difficulty, or (2) planned, orderly closure that will occur when the plant becomes economically non-competitive.

At the time of closure, all then-applicable LORS will be identified and the Energy Commission-required closure plan will address compliance with these LORS. Generally, if no additional ground disturbance occurs during closure activities and all conditions of certification have been met, no impacts to cultural resources would be expected. However, actual potential impacts are more likely to depend upon the final location of project structures in relation to existing resources, and then upon the procedures used for the removal of project structures. Since the spatial relationship between the closure and removal of project structures and sensitive resources cannot be determined at this time, no conclusion can be drawn at this time with respect to the impact of facility closure on cultural resources.

UNEXPECTED TEMPORARY CLOSURE

According to the AFC, an emergency unplanned closure, would probably be temporary. The applicant's plan, if this type of closure occurs, would be to keep everything ready to start-up as soon as the emergency is over. In this sort of situation, there is unlikely to be any impact to cultural resources (LPGP 1998a).

UNEXPECTED PERMANENT CLOSURE

If a site were abandoned, impact to cultural resources would be unlikely because there would be no immediate soil disturbances. Over time, depending on the need to disturb the ground to accomplish project closure and facility removal, some disturbance of known and / or previously unknown, cultural resources might result.

MITIGATION

The AFC indicates that several historical and prehistoric sites and numerous isolates have previously been found on the surface within one quarter mile of the project area. Since project development and construction usually entail disturbance of the ground surface, as well as disturbance below the surface, the proposed project has the potential for sub-surface excavation to encounter sub-surface

cultural resources. The presence of cultural resource materials beneath the surface of the project area is difficult to determine until the ground is opened by excavation, trenching, or augering, so the extent of potential impacts often cannot easily be evaluated prior to construction.

The preferred mitigation for impacts to cultural resources is avoidance of the resource. If previously unknown cultural resources are encountered during site clearance and preparation, or during project construction, and they cannot be avoided, then contingency measures must be in place to protect these resources. Staff's objective is to ensure that there will be no adverse impacts to significant cultural resources during project development and construction. Critical to the success of any mitigation effort is the selection of a qualified professional cultural resources specialist. This designated specialist must have the authority to halt or redirect work if those artifacts are located. Commission staff must review the qualifications and approve of the professional archaeologist designated by the project owner to lead and participate in project monitoring and mitigation efforts.

Mitigation measures are developed to reduce the potential for adverse project impacts on the project region's cultural resources to a less than significant level. Staff has recommended a series of conditions of certification that would help ensure the mitigation of project impacts. The proposed mitigation measures would apply to any potential for impacts to sensitive cultural resources, in all areas affected by the project. Mitigation measures are derived from good professional practice and they are based on the US Secretary of Interior guidelines, and Commission staff recommendations. All of these mitigation measures have previously proven successful in protecting sensitive cultural resources from construction-related impacts, while allowing the timely completion of many projects throughout California.

APPLICANT'S PROPOSED MITIGATION

As indicated in the AFC, known cultural resource sites will be avoided wherever possible. The AFC recommends that sites for which significance has not been formally assessed, will be presumed to be important / significant until such a determination can be made. The applicant has assumed that all the recorded sites that have not yet been formally evaluated for significance/importance and that may still retain integrity, are at minimum an "important" resource under CEQA, or are potentially eligible for listing on the National Register under 36 CFR 60.4(d).

In the AFC, the applicant recommended a ~~six-point~~ program of mitigation measures that would apply to any cultural resources discovered within the project APE. These proposed mitigation measures were presented in ~~detail in the AFC,~~ section 5.7.3.1 of the AFC and <u>are to</u> ~~will~~ be incorporated into the Cultural Resource Monitoring and Mitigation Plan prepared, as described in the proposed Conditions of Certification. ~~Basically,, t~~ The ~~six-point~~ <u>applicant's</u> program set forth in the AFC includes:

- Avoidance

- Transmission towers and ancillary facilities will be located to avoid any recorded cultural resource not previously found to be ineligible for inclusion in theNRHP. As needed, the archaeologist will accompany the project engineer to the field to demarcate site boundaries on the ground, to ensure that proposed facility placement will not inpinge on a site. Routes of any roads which must be built or graded outside areas not already surveyed for cultural resources will be subjected to archaeological survey prior to construction. If a potentially significant cultural resource is discovered, the road route will be modified to avoid it. If there is no feasible means to avoid theresource, the site will be tested and if significant, mitigative measures described below will be applied, in consultation with the regulatory agencies.

- Physical Demarcation and Protection

  - In instances where a tower, road, or ancillary facility must be placed within 100 feet of a known site not previously found to be ineligible for inclusion on the NRHP, the site will be temporarily fenced or otherwise demarcated on the ground, and the area will be designated environmentally sensitive. Construction equipment will be directed away from the site, and construction personnel will be directed to avoid entering the area. Where site boundaries are unknown, the protected area will include a buffer zone. In some cases, additional archaeological work may be required to demarcate the boundaries of the site, in order to ascertain whether the site can be avoided.

- Crew Education

  - Prior to the beginning of construction, the construction crew will be informed of the resource's values and of the regulatory protections afforded that resource. The crew will also be informed of procedures to be followed at designated culturally sensitive areas, and cautioned not to drive into these areas or to park or operate construction equipment on them. The crew will also be cautioned not to collect artifacts, and instructed to inform a construction supervisor in the event that cultural remains are discovered.

- Archaeological Monitoring

  - Initial grading or excavation within 100 feet of any potentially significant resource that may have a subsurface component will be monitored by an archaeologist. If subsurface materials are uncovered, construction work in the immediate vicinity will be halted and the emergency discovery procedures described below will be implemented.

- Native American Monitoring

- To ensure participation by interested members of the Native American community, it is recommended that a Native American monitor be present during archaeological site testing and / or data recovery operations at archaeological sites that appear to have a prehistoric or ethnographic component. Selection of the monitor should be made through the NAHC. The monitor will be retained either directly by the project applicant, or through the sub consultant conducting the actual fieldwork.

- Formal Compliance with CEQA Appendix K/Section 106 (LPGP 1998a,).

  - In the event that a resource cannot be avoided in the placement of a transmission tower or other facility, further archaeological work will be undertaken as appropriate to assess the significance / importance of the resource prior to project implementation.

- Mitigation for Resources Discovered During Construction

  - If unanticipated resources are discovered during construction, they will be addressed under the procedures set forth at 36 CFR 800.11. If possible, the resource will be avoided through route avoidance or protective measures described above. If the resource cannot be avoided, the project archaeologist will consult with the CEC and the State Historic Preservation Officer (SHPO), and the BLM if federal there is federal involvement, with regard to resource significance. If it is determined that the resource is significant, measures to mitigate impacts will be devised in consultation with the CEC (and possibly the SHPO), and will be carried out by the applicant.

- Protection of Resources During Operation and Maintenance

  - Specific mitigation measures that address impacts for any site that could not be avoided during construction will consider the [potential for ongoing impact. Any mitigation data recovery will be evaluated in conjunction with the regulatory agencies, to address potential long-term, ongoing impacts. In addition, crews and vehicles engaged in operation and maintenance will, as project policy, confine activities to the greatest extent possible, to existing roads, or will perform inspections by air or on foot, as applicable.

- Specific Mitigation Measures for Transmission Route 1

  - If site P-15-006725 / CA-KER-5356 cannot be avoided, further evaluation and archaeological testing of this site may be required to assess its NRHP significance and / or CEQA importance. If found to be a significant / important resource, preparation of a treatment plan, and implementation of a data recovery program may be required to satisfy NHPA Section 106 compliance requirements.

BLM'S PROPOSED MITIGATION MEASURES

The staff archaeologist for the BLM at the Caliente Resource Area office in Bakersfield, reviewed the confidential cultural and paleontologic resource technical reports prepared by the applicant's consultants. The BLM concurred with these reports that there were only two known resource sites located on lands under BLM jurisdiction, and that these sites were previously determined not to be eligible for listing in the National Register. BLM staff concluded that, since no other known historic properties were present within the APE on federal lands, any compliance measures pertinent to BLM have been fulfilled (LPGP 1999b).

The BLM staff archaeologist also provided review comments and suggested some editorial changes to clarify and enhance the discussion in the technical reports. BLM recommended that known historic resource sites CA-KER2049H, P-15-006721 and P-15-006722, P-15-006725/CA-KER-5356/H; and CA-KER-4013 be evaluated under CEQA, unless they can be safely avoided during project construction (LPGP 1999b).

STAFF'S PROPOSED MITIGATION MEASURES

Commission staff concurs with the mitigation measures proposed by the applicant in the AFC and the suggestions offered by the BLM. Staff has suggested additional language to clarify the measures presented by the applicant in the AFC. In addition to the applicant's proposed mitigation, staff's recommendations are incorporated into a series of conditions of certification that would reduce the potential for adverse project impacts on the region's cultural resources to a less than significant level.

The proposed mitigation measures would apply to any potential for impacts to sensitive cultural resources in all areas affected by the project. Mitigation measures are derived from good professional practice and they are based on the US Secretary of Interior's guidelines, staff's recommendations, and any pertinent policies and guidelines of Kern County. The mitigation measures set forth in the conditions have been applied to previous projects before the Commission and they have proven successful in protecting sensitive cultural resources from construction-related impacts, while allowing the timely completion of many projects throughout California.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

As discussed in the AFC, there are a total of 31 recorded cultural resource sites or isolates within one quarter mile of the project area. The presence of isolates on the surface can sometimes indicate the presence of additional resources below the surface or in proximity to the surface finds. Since several prehistoric sites and isolates have been recorded within the project area, there is a possibility that project construction could encounter potentially significant cultural resources.

Most of the previously recorded resources have been determined not to be eligible for the National Register of Historic Places. However, two areas, located between MP 9.5 and MP 14.2 of the transmission line route, contain sites that previous cultural resource specialists have suggested as potentially eligible to the National Register. Additional testing by mechanical excavation was conducted to provide further information for the eligibility determination. The AFC also notes that the sites are located in frequently plowed agricultural fields and concludes that construction-related activity on the surface is unlikely to result in new physical impacts to surface resources at the sites. The applicant does recommend that any project-related excavation in the vicinity of these sites should be closely monitored (LPGP 1998a; 1998e; 1999b).

Under recently adopted changes to CEQA, staff is now required to make findings as to the presence of historic resources in the area potentially affected by a project and to draw conclusions as to the potential significance of the resource and/or the impact. Staff has determined that the known resource sites described in the AFC and in the confidential technical reports meet one or more of the criteria needed to identify them as "historic resources". Staff has reviewed the discussions of the materials recorded at the various known sites found within one-quarter mile of the project APE. Staff has reviewed the recommendations of the applicant's archaeological specialist and the comments of the BLM archaeologist. Staff can conclude that construction of the LPGP can be accomplished in a manner that can avoid potential adverse changes to the significance of the known historic resources. The potential for adverse changes to as yet undiscovered additional historic resources will remain unknown until, and unless, such resource are encountered. The mitigation measures set forth in the proposed conditions of certification are expected to reduce any potential for adverse impacts to historic resources to a less than significant level.

Generally, the cultural resource conditions of certification proposed by Energy Commission staff are presented as a means of anticipating potential impacts and providing mitigation procedures to prevent impacts to significant cultural resources. If the proposed conditions are implemented by qualified professionals in a timely and proper manner, the project will be in compliance with the applicable LORS.

RECOMMENDATIONS

Staff recommends designation of a qualified professional cultural resource specialist to conduct a pre-construction survey of the linear routes after the project owner has identified the final centerlines and rights-of-way. Staff also recommends monitoring for cultural resources throughout the pre-construction and construction periods and the implementation of ~~full~~ appropriate mitigation measures wherever cultural resources are encountered. Monitoring and mitigation by a qualified cultural resource specialist are essential to reduce the potential for project impacts to cultural resources to a less than significant level.

Staff recommends that the Energy Commission adopt the following proposed conditions of certification, to ensure mitigation of potential impacts to sensitive cultural resources during the construction of the La Paloma Generating Project.

PROPOSED CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of project construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities), the project owner shall provide the California Energy Commission (Commission) Compliance Project Manager (CPM) with the name and resume for the designated cultural resource specialist who will develop and implement the project's cultural resource monitoring and mitigation plan. Project construction shall not begin until the designated cultural resource specialist approved by the CPM is available to be on site

Protocol: 1) The resume for the designated cultural resource specialist shall include all information needed to demonstrate that the specialist meets the minimum qualifications specified in the US Secretary of Interior Guidelines, as published by the State Office of Historic Preservation (1983). The Commission staff expects that these minimum qualifications would include the following: a graduate degree in anthropology, archaeology, California history, cultural resource management, or other comparable fields; at least three years of archaeological resource mitigation and field experience in California; and at least one year's experience in each of the following areas: leading archaeological resource field surveys; leading site and artifact mapping, recording, and recovery operations; marshalling and use of equipment necessary for cultural resource recovery and testing; preparing recovered materials for analysis and identification; determining the need for appropriate sampling and/or testing in the field and in the lab; directing the analyses of mapped and recovered artifacts; completing the identification and inventory of recovered cultural resource materials; and the preparation of appropriate reports to be filed with the receiving curation repository, the SHPO, all appropriate regional archaeological information center(s), and the CPM.

2) The resume for the designated cultural resource specialist shall include a list of specific projects the specialist has previously worked on; the role and responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.

Verification: At least one hundred twenty (120) days prior to the start of construction on the project, the project owner shall submit the names and resumes for its designated cultural resource specialist and the specialist's team members, to the CPM for review and written approval.

At least ten (10) days prior to the start of construction, the project owner shall confirm to the CPM that the approved designated cultural resource specialist is available and prepared to implement the cultural resource Conditions of Certification at the start of construction.

At least ten (10) days prior to the termination or release of a designated cultural resource specialist, the project owner shall obtain CPM approval of the replacement specialist by submitting to the CPM the name and resume of the proposed new designated cultural resource specialist. Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

CUL-2 Prior to the start of project construction, the project owner shall provide the designated cultural resource specialist and the CPM with maps and drawings showing the final project design and site layout, and the final alignment of all linear facilities. The routes for the linear facilities shall be provided on 7.5 minute quad maps, showing post mile markers (including "tic marks" for tenths of a mile), final center lines and right-of-way boundaries, and the location of all the various areas where surface disturbance may be associated with project-related access roads, storage yards, laydown sites, pull sites, pump or pressure stations, switchyards, electrical tower or pole footings, and any other project components.

Protocol: The designated cultural resource specialist may request, and the project owner shall provide, enlargements of portions of the 7.5 minute maps presented as a sequence of strip maps for the linear facility routes. The strip maps would include post mile and tenth of a mile markers and show the detailed locations of proposed access roads, storage or laydown sites, tower or pole footings, and any other areas of disturbance associated with the construction and maintenance of project-related linear facilities. The project owner shall also provide copies of any such enlargements to the CPM at the same time as they are provided to the specialist.

Verification: At least ninety (90) days prior to the start of construction on the project, the project owner shall provide the designated cultural resource specialist and the CPM with final drawings and site layouts for all project facilities and maps at appropriate scale(s) for all areas potentially affected by project construction. If the designated cultural resource specialist requests enlargements or strip maps for linear facility routes, the project owner shall also provide a set of these maps to the CPM at the same time as they are provided to the specialist.

CUL-3 Prior to the start of project construction, the designated cultural resources specialist shall prepare, and the project owner shall submit to the CPM for review and written approval, a draft Cultural Resource Monitoring and Mitigation Plan to identify general and specific measures to minimize potential impacts to sensitive cultural resources. The Cultural Resources Monitoring and Mitigation Plan prepared for the Energy Commission per this condition, may also become part of the Archaeological Resources Treatment Plan required by the US Bureau of Land Management (BLM) permit process. The BLM permit usually applies to archaeological resource surveys, testing, monitoring and mitigation, and data and

resource recovery that takes place on lands managed by the BLM and/or other federal agencies.

The CPM will review and must approve in writing, the Cultural Resources Monitoring and Mitigation Plan. After CPM approval, the project owner's designated cultural resource specialist and designated cultural resource team shall be available to implement the Monitoring and Mitigation Plan, as needed throughout project construction. After the project owner receives written CPM approval of the plan, the project owner shall make the designated cultural resource specialist and designated cultural resource team available to implement the Monitoring and Mitigation Plan, as needed throughout project construction.

Protocol: The Cultural Resources Monitoring and Mitigation Plan shall include, but not be limited to, the following elements and measures:

a. A proposed research design that includes a discussion of questions that may be answered by the mapping, data and artifact recovery conducted during monitoring and mitigation activities, and by the post-construction analysis of recovered data and materials.

b. A discussion of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the pre-construction, construction, and post-construction analysis phases of the project.

c. A discussion of the mitigation team leadership and organizational structure, and the inter-relationship of team roles and responsibilities associated with completion of the tasks identified in (b), above.

d. A discussion of the need for Native American observers or monitors, the procedures to be used to select them, the areas or post-mile sections where they will be needed, and their role and responsibilities.

e. Incorporation of the applicant's mitigation measures, a set forth in the Staff Assessment and in sections 5.7.3.1, 5.7.3.2, 5.7.3.3, and 5.7.4.2 of the AFC.

f. A discussion of measures such as flagging or fencing, to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and/or operation, and identification of areas where these measures are to be implemented. The discussion shall address how these measures will be implemented prior to the start of construction and how long they will be needed to protect the resources from project-related effects.

g. A discussion of where monitoring of project construction activities is deemed necessary by the designated cultural resource specialist. The specialist will determine the size or extent of the areas where monitoring is to occur and will establish a schedule for the monitor(s) to be present. If the designated specialist determines that the likelihood of encountering cultural resources in certain areas is slight, the specialist may discontinue monitoring in that location.

h. A description of a set of reporting procedures, prepared in concert with the project owner, to be used by all project personnel to notify the designated cultural resource specialist of any unexpected finds of cultural resources during construction-related activities.

i. A description of the work curtailment procedures, prepared in concert with the project owner, to be followed if cultural resources are unexpectedly discovered during project construction.

i. A discussion of any additional pre-construction assessment, data recovery, and mitigation procedures to be implemented by the designated cultural resource specialist in the vicinity of known sites P-15-004014/CA-KER-4013 and P-15-006725/CA-KER-5356, if power pole or tower placement or other transmission line construction activity may extend closer to the known boundaries of these sites.

k. A discussion of the requirement that all cultural resources encountered will be recorded and mapped (may include photos) and all significant or diagnostic resources will be collected for analysis and eventual curation into a retrievable storage collection in a public repository or museum that meets the US Secretary of Interior standards and requirements for the curation of cultural resources.

l. A discussion of the availability and the designated specialist's access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resource materials encountered during construction.

m. Identification of the public institution that has agreed to receive any data and cultural resources recovered during project-related monitoring and mitigation work. Discussion of any requirements, specifications, or funding needed for the materials to be delivered for curation and how they will be met. Also include the name and phone number of the contact person at the institution.

Verification: At least seventy-five (75) days prior to the start of construction on the project, the project owner shall provide the draft Cultural Resources Monitoring and Mitigation Plan prepared by the designated cultural resource specialist, to the CPM for review and written approval. If the CPM does not approve the draft plan, the project owner, the designated cultural resources specialist, and the CPM shall meet to discuss comments and work out necessary changes.

CUL-4 Prior to the start of project construction, the designated cultural resources specialist shall prepare an employee training program. The project owner shall submit the cultural resources training program to the CPM for review and written approval.

Protocol: The training program will discuss the potential to encounter cultural resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training program shall also include the set of resource reporting procedures and work curtailment procedures that workers are to follow if previously unknown cultural resources are encountered during project activities. The training program will be presented by the designated cultural resource specialist or another qualified person approved by the CPM and may be combined with other training programs prepared for biological resources, hazardous materials, or any other areas of interest or concern.

Verification: At least forty-five (45) days prior to the start of construction on the project, the project owner shall submit to the CPM (or designee) for review, comment, and written approval, the proposed employee training program, the set of reporting procedures, and the work curtailment procedures that the workers are to follow if previously unknown cultural resources are encountered during construction. The project owner shall provide the CPM with the name and resume for the person proposed to conduct the training.

The CPM shall provide the project owner with written approval or disapproval of the proposed trainer, the proposed employee training program, the set of reporting procedures, and the work curtailment procedures. If the CPM does not approve of the proposed trainer, or the draft employee training program, or the proposed procedures, the project owner, the designated cultural resources specialist, and the CPM shall meet to discuss comments and work out necessary changes.

CUL-5 Prior to the start of construction and throughout the project construction period as needed for all new employees, the project owner shall ensure that designated cultural resource specialist provides the CPM-approved training to all project managers, construction supervisors, and workers. The project owner shall ensure that the designated specialist provides the workers with the CPM-approved set of procedures for reporting any sensitive resources that may be discovered during project-related ground disturbance.

Verification: The project owner shall provide the CPM with documentation in the Monthly Compliance Report, that the designated cultural resource specialist has presented the employee training program and has provided the set of procedures to all project managers, construction supervisors, and all workers.

CUL-6 The designated cultural resource specialist shall have the authority to halt or redirect construction if previously unknown cultural resource sites or materials are encountered during project-related grading, augering, excavation and/or trenching. The halting or redirection of construction shall remain in effect until the designated cultural resources specialist has notified the CPM of the find and the work stoppage, and until any necessary data recovery and mitigation has been completed. After construction is halted or redirected, the designated cultural resources specialist shall act in accordance with the following procedures:

- The designated cultural resources specialist, representatives of the project owner, and the CPM shall confer within five working days of the notification of the CPM to determine what, if any, data recovery or other mitigation is needed.

- If data recovery or other mitigation measures are required, the designated cultural resource specialist and team members shall monitor construction activities and implement data recovery and mitigation measures, as needed.

- All necessary and required data recovery and mitigation shall be completed as expeditiously as possible after discovery of any previously unknown cultural resources, unless additional time is agreed to by all parties.

Verification: Thirty (30) days prior to the start of construction, the project owner shall provide the CPM with a letter confirming that the designated cultural resources specialist has the authority to halt construction activities in the vicinity of a cultural resource find. The project owner shall also provide the CPM for review and written approval, a set of work curtailment procedures to be followed if previously unknown cultural resources are discovered during construction.

CUL-7 Throughout the project construction period, the project owner shall provide the designated cultural resource specialist and the CPM with a current schedule of anticipated monthly project activity (presented on a week-by-week basis) and a map indicating the area(s) where construction activities will occur. The designated cultural resources specialist shall consult daily with the project superintendent or construction field manager to confirm the area(s) to be worked on the next day(s).

Verification: The project owner shall provide the designated cultural resource specialist and the CPM with a week-by-week schedule of the upcoming construction activities, one month in advance, as well as maps showing where the construction activity is scheduled to take place. These advance schedules are to be provided to the CPM with the Monthly Compliance Report.

CUL-8 Throughout the pre-construction reconnaissance surveys and the construction monitoring and mitigation phases of the project, the designated cultural resources specialist shall keep a daily log of any resource finds and the progress or status of the resource monitoring, mitigation, preparation, identification, and analytical work being conducted for the project. The designated specialist shall prepare a weekly summary report on the progress or status of cultural resource-related activities. The weekly summary reports are to be filed with the project owner for inclusion in the Monthly Compliance Report to the CPM. The designated resource

specialist may informally discuss the cultural resource monitoring and mitigation activities with Commission technical staff.

Verification: Throughout the project construction period, the project owner shall include in the Monthly Compliance Reports to the CPM, copies of the weekly summary reports prepared by the designated cultural resource specialist on the progress or status of cultural resource monitoring and mitigation activities.

CUL-9 The designated cultural resource specialist shall be present at all times to monitor construction-related grading, excavation, trenching, and/or augering in the vicinity of previously recorded archaeological sites and in areas where cultural resources have been identified during project construction.

Protocol: If the designated cultural resource specialist determines that full-time monitoring is not necessary in certain portions of the project area or along portions of the linear facility routes, the designated specialist shall notify the project owner of the changes. The designated cultural resource specialist shall use mile post markers and boundary stakes placed by the project owner to identify areas where monitoring is being reduced or is no longer deemed necessary.

The daily logs prepared by the designated cultural resource specialist shall indicate by tenths of a post mile, where and when monitoring has taken place and where monitoring has been deemed unnecessary.

Verification: The project owner shall include in the Monthly Compliance Reports to the CPM, copies of the weekly summary reports prepared by the designated cultural resource specialist on project-related cultural resource activities.

CUL-10 The project owner shall ensure that the designated cultural resource specialist obtains and maintains a current BLM Archaeological Resource Use Permit to gain access to lands managed by the BLM or other federal agencies, to conduct any surveys, monitoring, data and/or artifact recovery activities on these lands. This use permit is to be obtained from the Caliente Resource Area office of the BLM in Bakersfield, California, no less than ten (10) days prior to the start of cultural resource activities governed by the permit.

Verification: The project owner shall provide the CPM and the designated BLM representative(s) with a copy of the BLM archaeological resource use permit received by the designated cultural resource specialist, in the next Monthly Compliance Report following its receipt or renewal.

CUL-11 The project owner shall ensure that the designated cultural resource specialist meets the professional qualifications specified by the BLM; that the

Cultural Resources Monitoring and Mitigation Plan prepared per Energy Commission Condition CUL-3, also reflects BLM requirements for a Archaeological Resource Treatment Plan; and that all surveys, monitoring, and data and/or artifact recovery activities implemented during the construction and operation of the La Paloma project, meet the requirements of the BLM and the Energy Commission.

Verification: The project owner shall concurrently provide the designated BLM representative(s) with copies of all information submitted to the CPM in response to Energy Commission conditions of certification. The project owner shall provide the CPM with current copies of BLM permit conditions and requirements; the criteria and requirements for the designation of a cultural resource specialist; the contents of its Archaeological Resource Treatment Plan; and any other requirements pertinent to the protection of cultural resources potentially affected by the La Paloma project. In each Monthly Compliance Report, the project owner shall provide the CPM with a summary outlining the measures it has taken to ensure that it has met both BLM and Energy Commission requirements.

~~**CUL-12** The project owner shall ensure the recovery, preparation for analysis, analysis, and preparation for curation of all cultural resource materials encountered and collected during pre-construction surveys and during the monitoring, data recovery, mapping, and mitigation activities related to the project.~~

~~**Verification:** The project owner shall maintain in its compliance files, copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate research specialists which will ensure the necessary recovery, preparation for analysis, and analysis of cultural resource materials collected during data recovery and mitigation for the project. The project owner shall keep these files available for periodic audit by the CPM.~~

CUL-12 The project owner shall ensure the recovery, preparation for analysis, analysis, and preparation for curation of all cultural resource materials encountered and collected during pre-construction surveys and during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: The project owner shall maintain in its compliance files, copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate research specialists which will ensure the necessary recovery, preparation for analysis, and analysis of cultural resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for a period of at least five years after completion of the Final Cultural Resources Report and the files shall be kept available for periodic audit by the CPM.

CUL-13 The project owner shall ensure preparation of a Preliminary Cultural Resource Report following completion of data recovery and site mitigation work. The preliminary report is to be prepared by the designated cultural resource specialist and the project owner shall submit the preliminary report to the CPM for review, comment, and written approval.

Protocol: The preliminary report shall include (but not be limited to) preliminary information on the survey report(s), methodology, and recommendations; site records and maps; determinations of sensitivity and significance; data recovery and other mitigation activities; discussion of possible results and findings of any analysis to be conducted on recovered cultural resource materials and data; proposed research questions which may be answered or raised by the data recovered from the project; and an estimate of the time needed to complete the analysis of recovered cultural resource materials and prepare a final report.

If no cultural resource materials were recovered during project construction, the CPM-approved Preliminary Cultural Resource Report shall also serve as the final report and shall be filed with appropriate entities, as described in conditions CUL-16 ~~and CUL-14~~, below.

Verification: The designated cultural resources specialist shall prepare a preliminary report on the cultural resource monitoring and mitigation activities conducted for the project. The report shall be prepared within ninety (90) days following completion of the data recovery and site mitigation work. Within seven (7) day after completion of the report, the project owner shall submit a copy of the Preliminary Cultural Resource Report to the CPM for review, comment, and written approval.

CUL-14 The project owner shall ensure the preparation of a Final Cultural Resource Report by the designated cultural resources specialist, if significant or diagnostic cultural resources are found. The Final Cultural Resource Report shall be completed ~~within ninety (90) days~~ following completion of the analysis of the recovered cultural materials and related information.

Protocol: The Final Cultural Resource Report shall include (but not be limited to) the survey report(s), methodology, and recommendations; site records and maps; description and inventory list of recovered cultural materials; determinations of significance and potential eligibility; data recovery and other mitigation activities; results and findings of any special analyses conducted on recovered cultural resource materials; research questions answered or raised by the data from the project; and the name and location of the public institution receiving the recovered cultural resources for curation.

Verification: The Final Cultural Resource Report shall be prepared by the designated cultural resources specialist for the project, within ninety (90) days

following completion of the analysis of the recovered cultural materials and preparation of related text, maps, tables, charts, photos, etc. Within seven (7) days after completion of the report, the project owner shall submit a copy of the Final Cultural Resources Report to the CPM for review and approval.

CUL-15 The project owner shall submit an original, an original-quality copy, or a computer disc copy of the CPM-approved Final Cultural Resource Report to the public institution receiving the recovered data and materials for curation, to the SHPO, and to the appropriate regional archaeological information center(s). If the final report is submitted to these entities on a computer disc, the disc files must meet SHPO requirements for format and content. A legible copy of the approved final report shall be filed with the Commission CPM, with a request for confidentiality, if needed to protect any sensitive resources or sites.

Protocol: The copies of the Final Cultural Resource Report to be sent to the curating institution, the SHPO, and the regional information center(s) shall include the following (as applicable to the project findings set forth in the final report): clean and reproducible original copies of all text; originals of any topographic maps showing site and resource locations; original or clear copies of drawings of significant or diagnostic cultural resource materials found during pre-construction surveys, during project-related monitoring, data recovery, and mitigation; and photographs of the site(s) and the various cultural resource materials recovered during project monitoring and mitigation and subjected to post-recovery analysis and evaluation. The project owner shall provide the curating institution with a set of negatives for all of these photographs.

Verification: The project owner shall maintain in its compliance files, copies of all documentation related to the filing of the original materials and the Commission-approved Final Cultural Resources Report with the public institution receiving the recovered data and materials for curation, the SHPO, and the appropriate archaeological information center(s). If no significant cultural resources were recovered, then the preliminary report shall serve as the final report and copies of the preliminary report shall be filed with these same agencies.

CUL-16 Following the filing of the CPM-approved Final Cultural Resource Report with the appropriate entities, the project owner shall deliver for curation all cultural resource materials, maps and data collected during data recovery and mitigation for the project. The materials shall be delivered for curation into a public repository that meets the US Secretary of Interior requirements for the curation of cultural resources.

Verification: All recovered cultural resource materials shall be delivered for curation within thirty (30) days following the filing of the CPM-approved Final Cultural Resource Report. The project owner shall maintain in its project history or compliance files, copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate public repository(ies) to which the project owner

has delivered for curation all cultural resource materials collected during data recovery and mitigation for the project.

REFERENCES

Forrest, Suzanne (Forrest). 1999. Report of Conversation (ROC) between Suzanne Forrest, Associate Planner, Kern County and Dorothy Torres, Energy Commission staff; March 31, 1999.

Grant, Campbell (Grant). 1978. "Chumash: Introduction" and "Interior Chumash", in Handbook of North American Indians, Volume 8, California, edited by Robert F. Heizer; published by the Smithsonian Institution, Washington, DC, 1978.

La Paloma Generating Project (LPGP). 1998a. Application for Certification, for the La Paloma Generating Project (98-AFC-2); Submitted to the California Energy Commission, August 12, 1998.

La Paloma Generating Project (LPGP). 1998e. Cultural Resources Technical Report for the La Paloma Generating Project, Appendix L (Confidential) Submitted to the California Energy Commission, dated July 10, 1998.

La Paloma Generating Project (LPGP). 1998*. Supplement to Appendix L (Confidential) to the AFC for the La Paloma Generating Project; Cultural Resources Technical Report (Completion of the Route 1 Survey). Dated September 1998.

La Paloma Generating Project (LPGP). 1998*. Errata to the AFC for the LA Paloma Generating Project. Submitted to the Energy Commission October 17, 1998.

La Paloma Generating Project (LPGP). 1999a. Supplement to the AFC, for the Modification of Electrical Transmission Line Route 1 to Avoid Crossing State Natural Preserve Lands; submitted to the Energy Commission March 14, 1999.

La Paloma Generating Project (LPGP). 1999b. Supplement #2 to Appendix L (Confidential) to the AFC for the La Paloma Generating Project; Cultural Resources Technical Report (Completion of the Route 1B Survey; and Other Facilities). Dated March 31, 1999.

Wallace, William J. (Wallace). 1978. "Southern Valley Yokuts", in Handbook of North American Indians, Volume 8, California, edited by Robert F. Heizer; published by the Smithsonian Institution, Washington, DC, 1978.